L 16683-66 EWT(l)/EWP(m)/EWT(m)/EWA(d)/ETC(m)-6/EWA(l) WW/RM

ACC NR: AP5021911 SOURCE CODE: UR/0207/65/000/004/0137/0138

AUTHOR: Barenblatt, G. I. (Moscow); Bulina, I G. (Moscow); Myasnikov, V. P. (Moscow); Sholomovich, G. I. (Moscow)

ORG: none

TITLE: Effect of small additions of high molecular solutions on fluid flow

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 4, 1965, 137-138

TOPIC TAGS: fluid flow, turbulent flow, Reynolds number

ABSTRACT: An experiment is described that was designed to show the cause of a sharp decrease in pressure losses in turbulent flows. It is shown that this loss is due to a change in the pulsating motion after a small amount of high molecular compounds is introduced into the flow. A diagram of the apparatus is given. Acqueous solutions of polyvinyl alcohol and carboxymethyl cellulose were used as additives. The experiment was conducted for Reynolds numbers of $3.2 \cdot 10^3$ and 5300. The authors thank V. F. Shushpanov for his kind copperation; V. P. Karkhov and I. I. Slezinger for their valuable comments, and V. V. Tikhomirov and

Card 1/2

L 26683-66

ACC NR: AP5021911

V. S. Shmelev for their participation in the experiments. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 26Feb65/ ORIG REF: 001/ OTH REF: 003

Card 2/2 SM

L 27845-66 EWT(m)/EWP(w)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b) RM/JD/AW
ACC NR: AP5027273 SOURCE CODE: UR/0207/65/000/005/0068/0075

AUTHORS: Barenblatt, G. I. (Moscow); Kozyrev, Yu. I. (Moscow); Malinin, N. I. (Moscow); Pavlov, D. Ya. (Moscow); Shesterikov, S. A. (Moscow)

ORG: none

TITLE: Vibrocreep of polymeric materials

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 68-75

TOPIC TAGS: polymer, caprolyte, stress analysis, stress, stress measurement, creep, creep mechanism

ABSTRACT: This paper presents experimental data and theoretical discussion on the phenomenon of vibrocreep in polymeric materials. The experimental procedure consisted of applying a vibratory stress to a specimen under a static stress and determining the resultant creep ε as a function of time. A schematic of the experimental setup is given, and the experimental results are presented graphically. The experimental results are compared with the theoretical expression

$$\varepsilon_c = \Psi\left\{\int_0^t \exp -\frac{(U-\gamma\sigma)}{RT}\,dt\right\},$$

where ε_c is the creep deformation, U - the energy of activation, σ - stress,

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ACC NR: AP5027273

$\dot{T}$ - temperature, R - the universal gas constant, γ - a constant, t - the time, and Ψ is the transform of χ

$$\chi(\varepsilon_c) = \int_0^{\varepsilon_c} \frac{d\varepsilon_c}{F(\varepsilon_c)} = \int_0^t \exp -\frac{(U - \gamma\sigma)\,dt}{RT},$$

in which $F(\varepsilon_c)$ is given by $\frac{d\varepsilon_c}{dt} = F(\varepsilon_c) \exp \frac{-(U - \gamma\sigma)}{RT}$,

after S. N. Zhurkov and T. N. Sanfirova (Temperaturnaya zavisimost' prochnosti chistykh metallov. Dokl. AN SSSR, 1955, t. 101. No. 2). It was found that the application of an oscillating stress causes an increase in the creep velocity in polymeric materials. The authors thank V. A. Volodchenkov, N. I. Gal'chin, Yu. S. Levshin, Yu. P. Maksimachev and V. V. Tikhomirov for their participation in the experiments. Orig. art. has: 4 graphs and 22 equations.

SUB CODE: OC/ SUBM DATE: 17Jun65/ ORIG REF: 013/ OTH REF: 005

Card 2/2

L 7064-66 EWT(1)/EWP(m)/EWT(m)/EPF(c)/EPF(n)-2/EWA(d)/EWP(j)/T/FCS(k)/ETC(m)
ACC NR: AP5027287 EWA(1) WW/RM SOURCE CODE: UR/0207/65/000/005/0147/0148

AUTHORS: Barenblatt, G. I. (Moscow); Bulina, I. G. (Moscow); Zel'dovich, Ya. B. (Moscow); Kalashnikov, V. N. (Moscow); Sholomovich, G. I. (Moscow)

ORG: none

TITLE: On one possible mechanism of the effect of small additions of high-molecular weight compounds on turbulence

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 147-148

TOPIC TAGS: hydrodynamics, turbulent flow, turbulence, vortex, turbulence depressant, polymer

ABSTRACT: To explain and extend the data of G. I. Barenblatt, I. G. Bulina, V. P. Myasnikov and G. I. Sholomovich (O vliyanii malykh dobavok rastvorimykh vysokomolekulyarnykh soyedineniy na rezhim dvizheniya zhidkosti. PMTF, 1965, No. 4) on the effect of small additions of soluble high-molecular weight compounds on turbulence, the particle sizes of sodium carboxymethylcellulose polymer in aqueous solutions were determined. The experimental procedure consisted in determining the viscosity of an aqueous solution of sodium carboxymethylcellulose by three different methods: capillary tubes, filter installation and Hepler viscosimeter, and comparison of the latter with the viscosity of a glycerine solution having the same viscosity. The experimental results are tabulated. It was found that the particle

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L 7064-66

ACC NR: AP5027287

21

size of the polymer was of the order of 10^{-2} cm. This particle diameter is just sufficient to explain the experimental results of G. I. Barenblatt et al (see above) on the assumption that the observed decrease in turbulence is due to the destruction of vortices in the liquid by the particles of the additive. The authors thank V. A. Gorodtsov and V. P. Myasnikov for their criticism, Ye. A. Myakotin for construction of the experimental installation, and V. A. Avseyenko, S. B. Gerashchenko, Z. P. Titov, and A. G. Tsypkin for their participation in the experimental measurements. Orig. art. has: 1 table.

SUB CODE: GC/ SUBM DATE: 26Jul65/ ORIG REF: 004/ OTH REF: 004

Card 2/2

L 10812-66

ACC NR: AP6000536 SOURCE CODE: UR/0040/65/029/006/0977/0992

AUTHORS: Barenblatt, G. I. (Moscow); Yentov, V. M. (Moscow); Salganik, R. L. (Moscow)

ORG: none

55
B

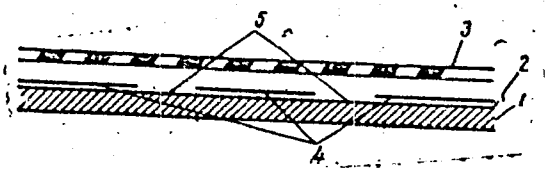
TITLE: Excitation pulse propagation in the electrochemical diffusion model of the nerve

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 6, 1965, 977-992

TOPIC TAGS: nerve fiber, nervous system, electrochemical analysis, current density, electric potential, nitric acid, Green function

ABSTRACT: The propagation of sensory pulses along nerves is analyzed using an electrochemical diffusion model. The model is based on the K. F. Bonhoeffer proposition (Vetter K. J. Zur Aktivierung und Repassivierung von passivem Eisen in Salpetersäure. Z. Phys. Chem., 1950, B. 106, 1/3, Sept., S. 127-159) which is given schematically in Fig. 1.

Fig. 1.



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In this figure, (1) represents an iron structure placed on a capillary (3) filled with concentrated nitric acid (2). The interaction of the nitric acid with the iron leads either to the solution of iron in the acid or to formation on the fiber of a thin oxide level. This layer is either passive or active and is characterized by electric current densities which depend on the oxide film formation process. First, a set of equations is derived to calculate acid concentration C, electric potential generation φ, and active surface formation α under the boundary conditions of impenetrable and electrically isolated capillaries. The electric pulses are assumed to travel with constant speed w such that

$$\varphi = \varphi(\zeta, r), \quad C = C(\zeta, r), \quad c = c(\zeta), \quad \alpha = \alpha(\zeta)$$

and

$$\varphi(-\infty, r) = 0, \quad C(-\infty, r) = c_0.$$

The equilibrium pulse propagation in the nerve then consists of the solution of the three equations

$$w\frac{d\alpha}{d\zeta} = -K[\alpha j_{3a} + (1-\alpha) j_{3b}]$$

$$-\sigma\delta\frac{d^2\varphi}{d\zeta^2} = \alpha(j_1 + j_{3a}) + (1-\alpha) j_{3b} + [\alpha j_{3a} + (1-\alpha) j_{3b}] c$$

$$w\frac{\partial C}{\partial \zeta} = D\left(\frac{\partial^2 C}{\partial \zeta^2} + \frac{\partial^2 C}{\partial r^2} + \frac{1}{r}\frac{\partial C}{\partial r}\right).$$

First, the conditions for the existence of pulses are analyzed in detail. It is shown that the activation front propagates with a finite velocity and that if any changes in the acid concentration $\varkappa = \beta/D = 0$ are completely neglected, there can be

no excitation pulses. For slowly varying nitric acid concentration, the above set of equations for the potential distribution is reduced to

$$p\frac{dp}{d\varphi}(A-\omega Ep)=X+\omega Bp-\lambda p\frac{d}{\varphi}\left(p\frac{dp}{d\varphi}\right)(\omega=v/K\sqrt{\sigma\delta},\ \lambda=\omega/J)$$

and solved for finite $\varkappa$ to yield

$$z=\frac{X_1+p_1B_1\omega}{A_1-p_1E_1\omega}+C\exp\left[-\frac{(A_1-\omega p_1E_1)}{\omega p_1}J_1(\varphi-\varphi_1)\right].$$

The structure of the excitation pulses is shown to be governed by the linearized equation

$$A\psi''-B\omega\psi'-X_1\psi=O(\varphi_0',\varphi_0'')+o(\psi,\psi',\psi'')\quad(\psi=\varphi-\varphi_0)$$

$$\psi(\infty)=0,\qquad \psi'(\zeta_*)=-\varphi_0'(\zeta_*)$$

which in turn can be expressed by a Green's function. Referring to Fig. 2,

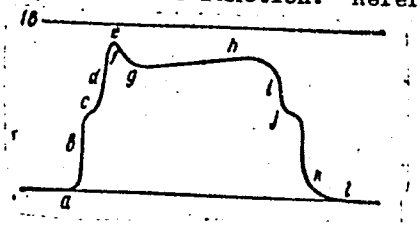

Fig. 2.

the potential difference between the solution and the iron is discussed on the basis of the solution of the above equation. For example: the portion abcde shows a fast

L 10812-66

ACC NR: AP6000536

advancing potential which exceeds the value of φ_k, the portion efghij shows a slowly falling potential to the value φ_k, and the portion jkl shows the potential falling sharply to its original value of zero. This diagram is then explained on the basis of the Bonhoeffer model of the activation and passivation processes. Orig. art. has: 35 equations and 6 figures.

SUB CODE: 06/ SUBM DATE: 21Jul65/ ORIG REF: 004/ OTH REF: 004

Card 4/4

L 23436-66 EWT(m)/EWP(j)/T WW/RM

ACC NR: AP6007579 SOURCE CODE: UR/0040/66/030/001/0073/0081

AUTHOR: Barenblatt, G. I. (Moscow)

ORG: none

TITLE: On the effects of small vibrations with the deformation of polymers

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 1, 1966, 73-81

TOPIC TAGS: polymer property, polymer, polymer deformation, polymer creep, vibration effect, vibration stress, viscoelasticity, thermal load

ABSTRACT: This article is prompted by the unexpected discovery (see G. I. Barenblatt, Yu. I. Kozyrev, N. I. Malinin, D. Ya. Pavlov, and S. A. Shesterikov O vibropolzuchesti polimernykh materialov, PMTF, 1965, No. 5) of the strong effect of minute vibrational charging on the rate of creep of stiff crystalline polymer materials. The effect is an outgrowth of the fact that such polymers are viscoelastic and have a low thermal conductivity. These vibrations under deformation lead to intense local heating which changes the material deformation characteristics and can lead to a reduction in stiffness. The author presents a general approach to the vibration problem and its effects. His basic

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L 23436-66

ACC NR: AP6007579

hypothesis is that the effect is generated through temperature variation under vibration leading to variation of deformation characteristics. Two closed systems of equations describing the phenomenon are developed: the first gives the characteristics of the mean stress deformed state in a variable, although known, temperature field, and the second relates the characteristics of the vibration field and temperature. The given approach can, in certain cases, provide a known basis for studying the effect of vibrations on polymer strength and for studying the dynamic stability of elastic equilibrium of polymer structures. The author thanks N. I. Malinin for his constructive comments. Orig. art. has: 3 figures and 27 equations.

SUB CODE: 20, 11/ SUBM DATE: 190ct65/ ORIG REF: 008/ OTH REF: 004

Card 2/2 dda

BARENBLATT, G.I., prof.

Current problems of applied mechanics; international congress in Munich. Vest. AN SSSR 35 no.2:76-79 F '65.
(MIRA 18:3)

ACC NR: AP7002695 SOURCE CODE: UR/0424/66/000/006/0076/0080

AUTHOR: Barenblatt, G. I. (Moscow); Yentov, V. M. (Moscow); Salganik, R. L. (Moscow)

ORG: none

TITLE: On kinetics of crack propagation. Failure condition and long-time strength

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 6, 1966, 76-80

TOPIC TAGS: crack propagation, cohesion modulus, ~~time dependent crack propagation~~, ~~solid~~ material failure, ~~long time~~ fatigue strength

ABSTRACT: A general approach to the study of crack propagation in solids with time-dependent cohesion modulus was discussed by the authors (Inzhenernyy zhurnal. MTT, 1966, no. 5) and reported in the ATD Press v. 5, no. 101. In the present article a general statement of the problem of time-related crack propagation is presented, the conditions of brittle failure of solids having similar characteristics are formulated, and certain problems of crack advance under long-time loading are examined. After explaining the gist of the failure-problem formulation (in the statical theory of equilibirum cracks) for solids with cohesion modulus independent of time, the effect of a monotonic variation of the cohesion modulus with time on the process of failure is pointed out. The failure occurs under an arbitrary (no matter how small) load, not instantly, but after a certain time interval. Both the magnitude of the load and the time elapsed depend on the path of loading. The essence of solving the stress-propaga-

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ACC NR: AP7002695

tion problem consists in determining the fields of elastic stresses in the solid and the time-related coordinates of the points of cracks in such a way that the statical equations of elasticity theory, the boundary conditions, and conditions of stress finiteness at the points of cracks will be satisfied. The concept of the time (duration) of the failure is introduced, which represents, in certain cases, the long-time strength of the solid. The above general considerations are illustrated by a sample analysis of the failure of a plate with a crack subjected to uniform tensile stresses at infinity in a direction perpendicular to the crack length. Two paths of loading are considered: 1) sudden application of the load; and 2) application of the load at a constant rate. In (1), the time of failure depends strongly on the initial length of the crack (opposite to the theory of equilibrium cracks). In (2), it is shown that the failure stress increases with increasing rate of loading. The procedure employed in analyzing the kinetics of crack propagation in a case when the cohesion modulus of the solid varies nonmonotonically with time is discussed. Orig. art. has: 5 figures and 4 formulas. [WA-52]
[VK]

SUB CODE: 20/ SUBM DATE: 21Jun66/ ORIG REF: 003

Card 2/2

ACC NR: AP7007625 SOURCE CODE: UR/0386/67/005/003/0085/0087

AUTHOR: Barenblatt, G. I.; Vsevolodov, N. N.; Mirkin, L. I.; Filippenskiy, M. P.; Rayzer, Yu. P.

ORG: Institute of Mechanics Problems, Academy of Sciences, SSSR (Institut problem mekhaniki Akademii nauk SSSR)

TITLE: Destruction of transparent materials by laser radiation. Formation of gas bubbles and wedging of the material by gas pressure

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 5, no. 3, 1967, 85-87

TOPIC TAGS: laser beam, organic glass, beam focusing, laser effect, LASER PHOTOGRAPH

ABSTRACT: Results are presented of experiments on the damage produced by focused laser radiation in materials of the organic-glass type (polymethylmethacrylate, polystyrene). The results were obtained by photographing the glow due to the focused beam through a lateral surface of the sample, at right angles to the beam direction. The photographs show that the damage is initiated in the form of cracks in the sample, with linear dimensions that grow in a direction opposite that of the beam. These cracks become wedged apart by gas produced as a result of the high temperature near the focused beam. It is proposed that the damage is produced first in the region of the light channel by heat and possibly by hypersound. Minute shear defects are then produced in the planes of maximum tangential stress, which are inclined ~45° to the

Card 1/2 UDC: none

ACC NR: AP7007625

beam axis. Light is further absorbed by the resultant inhomogeneities, the material is evaporated and partially burned, and this gives rise to gas bubbles of high pressure and temperature. The gas pressure produces near the bubbles large stresses and initiates the development of cracks. This development proceeds in the main via wedging of the previously produced shear defects by the gas. This proposed mechanism is confirmed by results of studies of damage in heated samples. Measurements are now under way of the individual parameters of the gas filling the cavity and of its temperature, to permit a more detailed description of the damage mechanism. Orig. art. has: 1 figure. [02]

SUB CODE: 20/ SUBM DATE: 28Oct66/ ORIG REF: 006/ OTH REF: 002/
ATD PRESS: 5117

Card 2/2

BARENBLATT, G. O. (Institute of Geology & Development of Combustibles, Academy of Sciences, Moscow)

"Theory of Equilibrium Cracks Formed on a Brittle Fracture3.)

report submitted for the Xth International Congress of Applied Mechanics, Stresa, Italy, 31 Aug - 7 Sep 60.

BARENBLATT, I. G.

"Basedow's Disease and Hyperthyreosis," Feldsher i Akusher.,

No. 6, 1943 Docent

S/277/63/000/004/010/013
A004/A127

AUTHORS: Barenboym, A.B., Lemberskiy, V.B.

TITLE: Operation analysis and calculation method of static freon bearings with jet balancing

PERIODICAL: Referativnyy zhurnal. Otdel'nyy vypusk. 48. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin, no. 4, 1963, 50, abstract 4.48.316. (Tr. Odessk. teknol. in-ta pishch. i Kholodil'n. prom-sti, 1962, v. 11, 49 - 57)

TEXT: The authors suggest a method of calculating gas-static freon bearings with jet balancing, developed on the basis of the theory of similitude, in which experimental data are utilized. This calculation method renders possible to determine the basic characteristics of the bearing for any operation media and can also be used for calculating radial thrust bearings and thrust bearings with jet balancing.

V. Pastukhov

[Abstracter's note: Complete translation.]

Card 1/1

MINKUS, B.A., kand. tekhn. nauk; BARENBOYM, A.B., inzh.

Comparison of the energy characteristics of the working substances of refrigeration turbocompressors. Khol. tekh. 39 no.5:37-42 S-O '62. (MIRA 16:7)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti.
(Refrigeration and refrigerating machinery—Testing)

MINKUS, B.A., kand.tekhn.nauk, dotsent; BARENBOYM, A.B., inzh.; LAZAREV, G.I., inzh.; SHTEYNBERG, I.B., inzh.

Use of radiators in boiling and condensing liquids in tubes. Izv.vys.ucheb.zav.; energ. 7 no. 4:104-108 Ap '64. (MIRA 17:5)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti (for Minkus, Barenboym, Lazarev). 2. Penzenskiy dizel'nyy zavod (for Shteynberg).

DZHARRAKHOV, A.R.; BARENBOYM, A.I.

Successful testing of new high-strength brake shoes. Zhel.dor. transp. 42 no.9:94-95 S '60. (MIRA 13:9)

1. Glavnyy inzhener Kirovabadskogo otdeleniya Azerbaydzhanskoy dorogi (for Dzharrakhov). 2. Nachal'nik Byuro sodeystviya ratsionalizatsii i izobretatel'stvu Kirovabadskogo otdeleniya Azerbaydzhanskoy dorogi (for Barenboym).
(Railroads--Brakes)

BARENBOYM, A.B., inzh.; MINKUS, B.A., kand.tekhn.nauk, dotsent;
SHTEYNBERG, I.B., inzh.

Experimental investigation of a freon air cooler with flat pipes. Khol. tekh. 38 no.6:7-10 N-D '61. (MIRA 15:1)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti (for Barenboym, Minkus). 2. Penzenskiy dizel'nyy zavod (for Shteynberg).
(Air conditioning--Equipment and supplies)

MINKUS, B.A., kand.tekhn.nauk, dotsent; BARENBOYM, A.B., inzh.

Fields of efficient application of heat-using freon turbomachinery systems. Trudy OTIPiKhP 12:54-62 '62. (MIRA 17:1)

1. Kafedra kholodil'nykh mashin Odesskogo tekhnologicheskogo instituta pishchevoy i kholodil'noy promyshlennosti.

BARMBOYM, A.B., inzh.

Particular characteristics of the designing of high-pressure [illegible] centrifugal compressors. Trudy OTIPiKhP 12:63-70 '62.

Experimental analytical method for determining the hydraulic efficiency of centrifugal compressors. Ibid.:87-100 (MIRA 17:1)

1. Kafedra kholodil'nykh mashin Odesskogo tekhnologicheskogo instituta pishchevoy i kholodil'noy promyshlennosti.

IL'CHENKO, S.G., otv. red.; CHUKLIN, S.G., zam. otv. red.; [illegible] L.F., red.; BAZYL'KES, I.S., red.; ALEKSEYEV, V.F., red.; VEYNBERG, B.S., red.; GOGOLIN, A.A., red.; [illegible], red.; ZHADAN, S.Z., red.; KAYEK, V.A., red.; MINKUS, R.A., red.; BARENBOYM, A.B., red.; NIKUL'SHINA, L.G., red.

[Transactions of the Conference on the Outlook for the Development and Introduction of Refrigerating Equipment into the National Economy of the U.S.S.R.] Trudy Konferentsii po perspektivam razvitiia i vnedreniia kholodil'noi tekhniki v narodnoe khoziaistvo SSSR. Moskva, Gostorgizdat, 1963. [illegible] p. (MIRA 16:5)

1. Konferentsiya po perspektivam razvitiya i vnedreniya kholodil'nov tekhniki v narodnoye khozyaystvo SSSR. Moscow, 1962. 2. Odesskiy tekhnologicheskiy institut pishchevoy i kholodnoy promyshlennosti (for Minkus, Barenboym, Chuklin, Nikul'shina, Zhadan). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (for Gorelik, Bazyl'kes).

[illegible], .M., kand.; BARENBOYM, A.B., inzh.

Determining the efficiency of centrifugal compressors under unrated conditions with changes in the Mach-M number. Khim. mashinostr. no.1:13-18 '65. (MIRA 18:9)

BARENBOYM, A.B., inzh.

Conditions of the modeling of cavitation phenomena in re-
frigerant pumps. Khol. tekh. i tekh. no. [illegible] '59. (MIRA 13:9)

RARENBOYM, A.B., insh.; PECHERSKAYA, I.M., insh.

Some results of the cavitation testing of pumps with refrigerants.
Khol. tekh. i tekh. no.1:104-110 '65. (MIRA 18:9)

L 2695-66 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/T/ETC(m) WW/DJ

ACCESSION NR: AT5022819 UR/3165/65/000/001/0141/0145

AUTHOR: Barenboym, A. B. (Engineer)

TITLE: A method for determining the pressure characteristics of pumps for fluids of different viscosity

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Gidravlicheskiye mashiny i gidroprivod, no. 1, 1965. Issledovaniye gidravlicheskikh ustroystv i sistem (Investigation of hydraulic devices and systems), 141-145

TOPIC TAGS: fluid pump, viscous flow, incompressible fluid, fluid pressure, steady flow

ABSTRACT: The viscosity of the pumped fluid substantially affects the characteristics of a pump. The complexity of the physical processes occurring in pumps, however, prevents an analytical evaluation of this influence. This problem may be solved only by experimentation followed by processing of the experimental data on the basis of probability theory. The unique method of analysis attempted by the present author consists of representing the pump characteristics in the form of criterional equations. This makes it possible to do away with the need of using an artificial method and to solve the problem

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L 2695-66
ACCESSION NR: AT5022819

exactly on the basis of probability theory. The conditions for the model of a steady flow of an incompressible viscous fluid in a pump are:

$$Eu = f(Re). \quad (1)$$

Analogous to expressions used in "tubular" hydraulics, the probability criteria are given as:

$$Eu = \frac{p}{\rho\omega^2}; \quad Re = \frac{\rho\omega d_H}{\eta}, \quad (2)$$

where p is pressure; ρ is density; η is dynamic viscosity; ω is the relative flow rate; and d_H is the hydraulic diameter of the pump channels. The formulas presented make it possible to determine the pressure of labyrinth pumps as a function of inflow and the viscosity of the working fluid. The investigations show that criterional equations can be derived for pumps of any design. Orig. art. has: 2 figures, 2 tables, and 9 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: IE, ME

NO REF SOV: 005 OTHER: 001

Card 2/2 KC

BARENBOYM, A.B., inzh.; VASIL'TSOV, E.A.

Concerning the effect of the Reynolds criterion on the performance of pumps. Khim. i neft. mashinostr. no.2:21-24 F '65.
(MIRA 18:4)

BARG[illegible] [illegible]; [illegible]; [illegible], V.M., inzh.

[illegible] G.E.Kalinin's [illegible] "Application of the similitude theory to the experimental study of the operation of gas turbine systems." [illegible] 11 no.9:[illegible] S '64. (MIRA 18.3)

BARAMBOYM, A.B., inzh.

Method for determining pressure characteristics of a pump for fluids with various viscosity. Gidr. mash. i gidr. no.1:141-145 '65. (MIRA 18.12)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti.

L 63453-65 EPF(c)/EPF(n)-2/EPA(s)-2/EWP(j)/EWA(c)/EWT(l)/EWT(m)/T-2/ETC(m) RPL
RM/WW

ACCESSION NR: AP5020649 UR/0147/65/000/003/0151/0156
621.6.052:621.674

44
B

AUTHOR: Barenboym, A. B.

TITLE: Study on the suction capacity of a labyrinth pump operating with various liquids

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 3, 1965, 151-156

TOPIC TAGS: pump, cavitation, fuel pump, fuel injection, cavity flow

ABSTRACT: To study anticavitation properties in high-speed turbopumps, an investigation was made with a labyrinth pump (see Fig. 1 of Enclosure) having a feed rate of $(0.14—0.7)\times10^{-3}$ m^3/sec, an impeller length of 0.1 m, and a 2-kw motor drive. The required net positive suction head (NPSH) was measured for water, ethanol, freon-12, freon-113, freon-142, and ammonia at temperatures from 290—340K. It was found that the NPSH requirement increases as the saturated vapor pressure of the liquid decreases. Water exhibited the highest and ammonia the lowest measured NPSH.

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ACCESSION NR: AP5020649

The NPSH of the labyrinth pump investigated can be calculated by the formula:

$$H_{sv} = 0{,}333 \left(\frac{p}{p_{cr}}\right)^{-0.4n},$$

where p is the saturated vapor pressure and p_{cr}, the critical pressure. Orig. art. has: 3 figures. [EV]

ASSOCIATION: none

SUBMITTED: 29Aug64 ENCL: 01 SUB CODE: PR

NO REF SOV: 001 OTHER: 002 ATD PRESS: 4067

Card 2/3

L 63453-65

ACCESSION NR: AP5020649 ENCLOSURE: 01

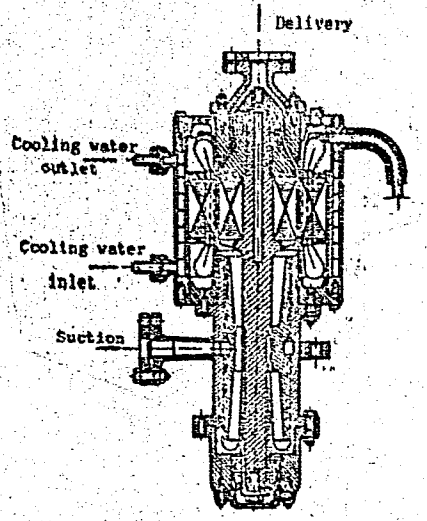


Fig. 1. Longitudinal section of a hermetic labyrinth pump

Card 3/3

ACC NR: AP6024261 SOURCE CODE: UR/0066/66/000/007/0027/0029

AUTHOR: Martynovskiy, V. S. (Doctor of technical sciences, Professor); Minkus, B. A. (Candidate of technical sciences, Docent); Barenboym, A. B. (Candidate of technical sciences); Shteynberg, I. B.

ORG: [Martynovskiy, Minkus, Barenboym] Odessa Technological Institute of the Food and Refrigeration Industry (Odesskiy tekhnologicheskiy institut pishchevoi i kholodil'noy promyshlennosti); [Shteynberg] Penza Diesel Plant (Penzenskiy dizel'nyy zavod)

TITLE: Cooling the air in an internal-combustion-engine supercharging system

SOURCE: Kholodil'naya tekhnika, no. 7, 1966, 27-29

TOPIC TAGS: supercharged engine, internal combustion engine, engine combustion system, combustion augmentation, diesel engine cooling

ABSTRACT: The range and effectiveness of augmenting internal combustion in engines through supercharging are determined by the increase of pressure in the supercharger and by the subsequent amount of air cooling. Intermediate air cooling lowers the temperature of the engine's operating cycle and simultaneously lowers thermal stress. At low air temperature the required density is attained with low super-

 UDC: 621.43:546.217:542.46

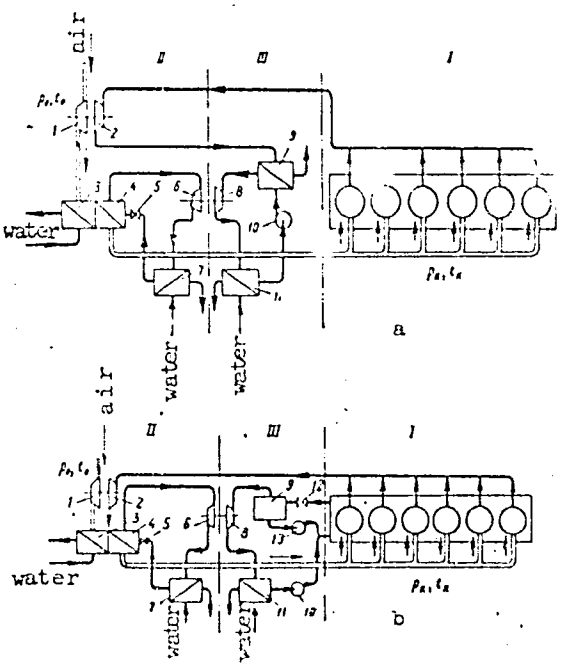


Fig. 1. Air-cooling system utilizing exhaust-gas heat (a) and water vaporization for engine (b) cooling

I - Engine; II - supercharging and cooling system; III - refrigeration compressor: 1 - centrifugal compressor; 2 - gas turbine; 3 - water air cooler; 4 - freon air cooler; 5 - regulating valve; 6 - freon compressor; 7 - condenser; 8 - refrigeration compressor turbine; 9 - waste heat boiler; 10 & 13 - pumps; 11 - condenser; 12 - throttle valve.

charging pressures; the operating-cycle pressures may therefore be lowered along with the engine's mechanical stress. The

ACC NR: AP6024261

increased degree of supercharging used by modern engines necessitates greater cooling of air, and air and steam cooling systems are used to cool it below the temperature of the surrounding medium. Both of these systems were analyzed, and the steam cooling cycle was found to be most effective. The Penza Diesel Plant in cooperation with the OTIPKhP has developed a more sophisticated heat-recovery unit for air cooling, which features minimum size and weight (see Fig. 1). A feature of this system is the use of the engine's water-jacket space as the freon boiler. In this way the heat acquired by cooling the engine is used, and the freon-turbine condenser is exchanged for the water of the cooling area. The vapor cooling cycle can also be used with water-vaporization engine cooling (Fig. 1, b), but in this case an elevated temperature is produced in the water-jacket space. The type of cooling and its drive depends on the operating conditions and on the type of engine. For low-powered diesels and two-cycle automotive diesel engines, it is feasible to use a piston-type or rotary compressor driven from the engine's shaft. For powerful motor vehicles, the best system is one using a centrifugal compressor and turbine operating on exhaust gases. For marine and stationary engines, where there is an adequate supply of cooling water, it is more practical to use a cooling unit which recovers heat. The air cycle can only be used for four-cycle engines with low supercharging pressure. Modern supercharged engines should use vapor compressors. Orig. art. has: 4 figures. [KM]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 5048

Card 3/3

L 45970-66

ACC NR: AT6026432 (N) SOURCE CODE: UR/0000/66/000/000/0018/0027

AUTHOR: Barenboym, A. B.

ORG: None

TITLE: Experimental-analytic determination of hydraulic losses in a centrifugal compressor

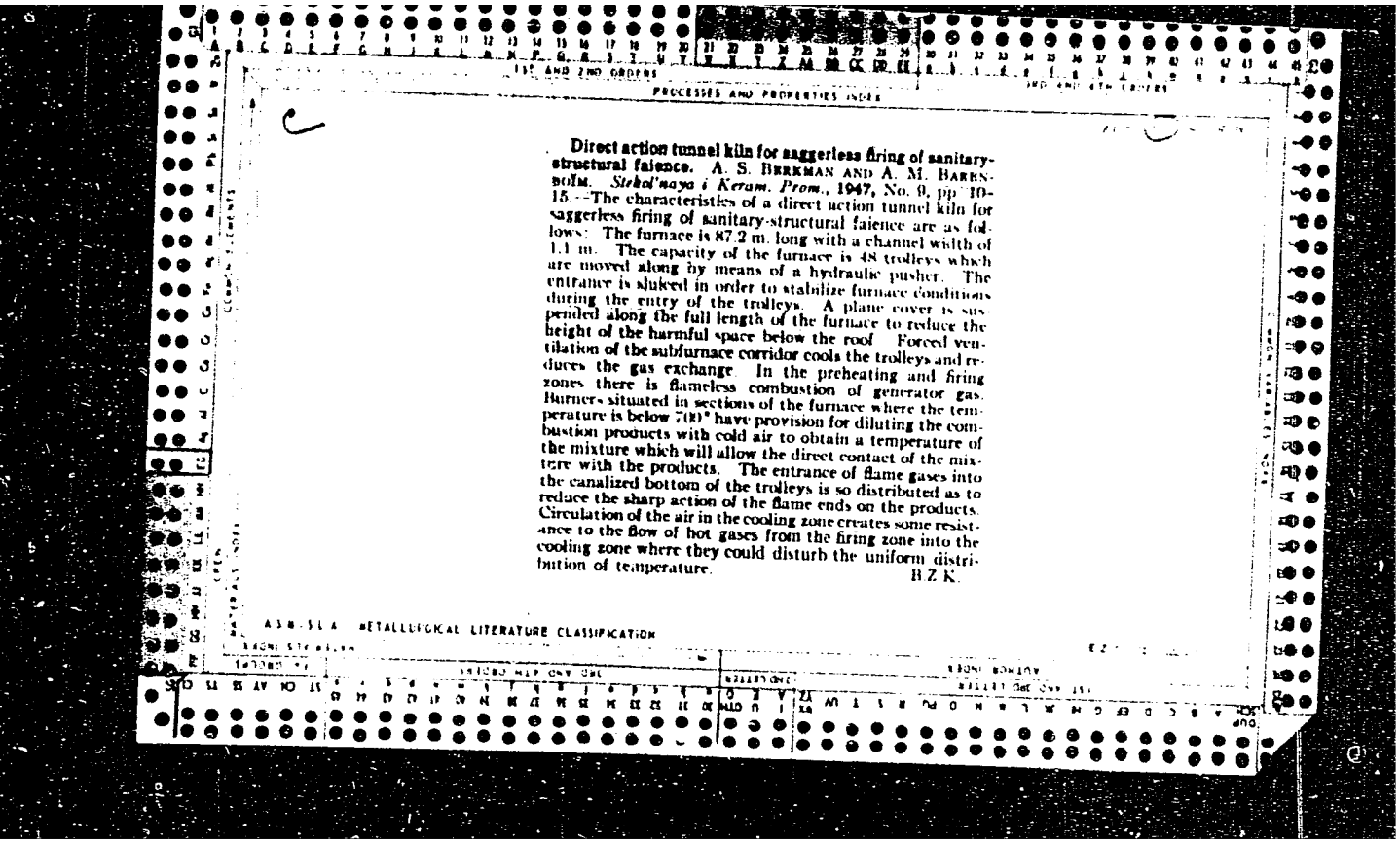
SOURCE: Leningrad. Nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya. Tsentrobezhnyye kompressornyye mashiny (Centrifugal compressors). Moscow, Izd-vo Mashinostroyeniye, 1966, 18-27

TOPIC TAGS: centrifugal compressor, hydraulic engineering, diffuser design

ABSTRACT: Analytical expressions are derived for calculating losses in the various elements of a centrifugal compressor on the basis of known theoretical relationships from hydraulics for plane and conical diffusers, treating the flow-through section of the compressor as a combination of sequentially connected diffusers. The results of calculations using the analytical formulas given in this paper are compared with the experimental data for hydraulic efficiency of various type of compressor wheels, diffusers and volutes. This comparison shows satisfactory agreement on the whole which indicates that the proposed method should be useful in centrifugal compressor design. The accuracy of this procedure should be improved by accumulation of additional experimental material. Orig. art. has: 5 figures, 31 formulas.

SUB CODE: 13/ SUBM DATE: 08Jan66/ ORIG REF: 009/ OTH REF: 001

Card 1/1 blg



PROCESSES AND PROPERTIES INDEX

Direct action tunnel kiln for saggerless firing of sanitary-structural faience. A. S. BERKMAN AND A. M. BARENBOIM. *Stekol'naya i Keram. Prom.*, 1947, No. 9, pp. 10-15.--The characteristics of a direct action tunnel kiln for saggerless firing of sanitary-structural faience are as follows: The furnace is 87.2 m. long with a channel width of 1.1 m. The capacity of the furnace is 48 trolleys which are moved along by means of a hydraulic pusher. The entrance is sluiced in order to stabilize furnace conditions during the entry of the trolleys. A plane cover is suspended along the full length of the furnace to reduce the height of the harmful space below the roof. Forced ventilation of the subfurnace corridor cools the trolleys and reduces the gas exchange. In the preheating and firing zones there is flameless combustion of generator gas. Burners situated in sections of the furnace where the temperature is below 700° have provision for diluting the combustion products with cold air to obtain a temperature of the mixture which will allow the direct contact of the mixture with the products. The entrance of flame gases into the canalized bottom of the trolleys is so distributed as to reduce the sharp action of the flame ends on the products. Circulation of the air in the cooling zone creates some resistance to the flow of hot gases from the firing zone into the cooling zone where they could disturb the uniform distribution of temperature.

B.Z.K.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

MAMOLAT, A.S.;BARENBOYM, A.M.

Prolonged physiological sleep in therapeutic and prophylactic method in tuberculosis. Probl. tuberk., Moskva no.4:35-39 July-Aug 1953. (CLML 25:4)

1. Of the Ukrainian Scientific-Research Institute of Tuberculosis imeni Academician F. G. Yanovskiy (Director -- A. S. Mamolat; Scientific Supervisor -- Prof. M. A. Klebanov).

DUPLENKO, K.F. (Kiyev); BARENBOYM, A.M. (Kiyev).

Leonid Dmitrievich Ul'ianov. Sov.zdrav. 12 no.6:53-55 N-D '53.
(MLRA 6:11)
(Ul'ianov, Leonid Dmitrievich, 1878-)

ALEKSANDROVSKIY, B.P., dotsent; BARENBOYM, A.M., starshiy nauchnyy storudnik (Kiyev)

History of N.A.Dobroliubov's sickness. Vrach.delo no.2:209-212 F '56. (MLRA 9:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut tuberkuleza imeni akademika F.G.Yanovskogo
(DOBROLIUBOV, NIKOLAI ALEKSANDROVICH, 1836-1861)

EXCERPTA MEDICA Sec 15 Vol. 11/9 Chest Sept 58 (S)

1914. THE 'ARMOUR-PLATE LUNG' SYNDROME (Russian text) - Barenboim B.A. and Gorovenko G.G. - VRAC. DELO 1957, 1 (39-42)

A report is presented on 6 patients diagnosed as 'armour-plate lung' secondary to a tuberculous process of many years' duration and complicated by an associated prolonged exudative pleurisy. The affection was characterized by increasing dyspnoea, dry cough, increasing pains in the side and a feeling of rigidity and tension in the thoracic and cervical muscles. Signs of toxaemia were slight in 5 patients, but in one patient the clinical course of the illness was characterized by periodic exacerbation of the tuberculous process with marked toxaemia. On percussion there was considerable dullness on the side of the calcified pleura and even absolute dullness; on auscultation, the breath sounds were grossly diminished. Roentgenological examination revealed a dense shadow. The patients were committed to surgical intervention: thoracotomy or pleurotomy with partial resection of the lung. Palliative measures in the form of drainage, limited thoracotomy, and pleural cavity needling are not to be recommended. (S)

Ukrainskiy nauchno-issledovatel'skiy institut tuberkuleza.

BARENBOYM, A. M.

AMOSOV, N.M., professor; BARENBOYM, A.M., starshiy nauchnyy sotrudnik

Resection of a pulmonary lobe in pregnancy [with summary in French]
Probl.tub. 35 no.4:108-109 '57. (MLRA 10:8)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza imeni akad. F.G.Yanovskogo (dir. A.S.Mamolat)
(PNEUMONECTOMY, in pregn.
(Rus))
(PREGNANCY, in various dis.
tuberc., pulm., pneumonectomy (Rus))

AMOSOV, N.M., red.; BARENBOYM, A.M., red.; GORCVENKO, G.G., red.; KLEBANOV, M.A., red.; MAMOLAT, A.S., red.; POTOTSKAYA, L.A., tekhn. red.

[Treatment of patients with cavitary pulmonary tuberculosis] Lechenie bol'nykh kaverneznym tuberkulezom legkikh. Kiev, Gos. med. izd-vo USSR, 1958. 275 p. (MIRA 11:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut tuberkuleza im. F.G.Yanovskogo. 2. Direktor Ukrainskogo instituta tuberkuleza(for Mamolat).

(TUBERCULOSIS)

MIKHAYLOV, F.A., prof. (Moskva)

"Academician Feofil Gavrilovich IAnovskii as a phthisiologist" by A.M.Barenboim. Reviewed by F.A.Mikhailov. Klin.med. 36 no.1:159-160 Ja '58. (MIRA 11:3)

(IANOVSKII, FEOFIL GAVRILOVICH) (BARENBOIM, A.M.)

BARENBOYM, A.M., kand.med.nauk; ROZENBERG, G.I., kand.med.nauk

Therapeutic tactics in the preparation of pulmonary tuberculosis patients for surgery. Vrach.delo no.2:129-138 F '60.
(MIRA 13:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut tuberkuleza imeni akad. F.G. Yanovskogo.
(TUBERCULOSIS)

BARENBOYM, A.M., starshiy nauchnyy sotrudnik

Transverse tomography as a supplementary method in the topical diagnosis of a cavern near the radix pulmonis. Pat.,klin.i terap. tub. no.8:100-105 '58. (MIRA 13:7)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza im. akad. F.G. Yanovskogo i Kiyevskogo nauchno-issledovatel'skogo instituta rentgenologii i radiologii.
(LUNGS--RADIOGRAPHY)

BARENBOYM, A.M., starshiy nauchnyy sotrudnik

Treatment of tuberculous caverns located near the radix pulmonis. Pat.,klin.i terap.tub. no.8:117-120 '58. (MIRA 13:7)

1. Iz 1-go terapevticheskogo otdeleniya (rukovoditel' - starshiy nauchnyy sotrudnik A.M. Barenboym) Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza im. akad. F.G. Yanovskogo.
(TUBERCULOSIS)

BARENBOYM, A.M., starshiy nauchnyy sotrudnik

Tuberculosis in the past and today. Pat.,klin.i terap.tub. no.8:358-361 '58. (MIRA 13:7)

1. Iz 1-y terapevticheskoy kliniki Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza im. akad. F.G. Yanovskogo.
(TUBERCULOSIS)

BARENBOYM, A.M.

Treatment of chronic fibrous cavernous tuberculosis of the lungs of varied pathogenesis. Probl.tub. 38 no.8:58-63 '60. (MIRA 14:1)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza imeni akad. F.G. Yanovskogo (dir. - dotsent A.S. Mamolat)
(TUBERCULOSIS)

MAMOLAT, A.S., otv. red.; KLEBANOV, M.A., red.; DRABKINA, R.O., red.; SUKHODOL'SKAYA, A.Ye., red.; BARENBOYM, A.M., red.; NARINSKAYA, A.L., tekhn. red.

[Treatment of tuberculosis patients; a dedication to the 100th anniversary of Professor F.G.IAnovskii's birth] Voprosy lecheniia bol'nykh tuberkulezom; posviashchaetsia 100-letiiu so dnia rozhdeniia akad. F.G.IAnovskogo. Red. koll.: A.S.Mamolat i dr. Kiev, Gosmedizdat USSR, 1962. 234 p. (MIRA 16:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut tuberkuleza.
(TUBERCULOSIS)

FURMAN, Aleksandr Samuilovich; BARENBOYM, A.M., red.; CHUCHUPAK, V.D., tekhn. red.

[Pulmonary tuberculosis] Legochnyi tuberkulez. Kiev, Gosmedizdat USSR, 1963. 253 p. (MIRA 17:3)

BARENBOYM, A.M., kand. tekhn. nauk; GALIYEVA, T.M., inzh.; GINZBURG, D.B., prof.; GRISSIK, A.M., inzh.; ZIMIN, V.N., dots.; KUSYAK, V.A., kand. tekhn. nauk; RUTMAN, F.M., inzh.; KHODOROV, Ye.I., kand. tekhn. nauk; CHIZHSKIY, A.F., kand. tekhn. nauk

[Heat calculations for furnaces and dryers of the silicates industry] Teplovye raschety pechei i sushilok silikatnoi promyshlennosti. Izd.2., perer. i dop. Moskva, Stroiizdat, 1964. 495 p. (MIRA 17:12)

BARENBOYM, G.M.

Some results of the Eighth All-Union Conference on Luminescence.
TSitologiia 2 no.4:506-507 Jl-Ag '60. (MIRA 13:9)
(LUMINESCENCE)

3274
S/205/61/001/006/004/022
D268/D305

27.1220 also 2209

AUTHORS: Barenboym, G.M., Barskiy, I.Ya., and Pinto, R.I.

TITLE: On the effect of "in vitro" X-ray irradiation on the intensity of ultra-violet fluorescence in peripheral blood cells in the rat

PERIODICAL: Radiobiologiya, v. 1, no. 6, 1961, 843 - 850

TEXT: Ultra-violet fluorescent microscopy was used for studying changes in the individual irradiated cell in peripheral blood leukocytes from white rats, intensity of fluorescence being measured with a simplified adaptation of the apparatus previously described by the authors (Ref. 7: Biofizika, 1962, in the press). Short-wave ultraviolet rays with λ = 250 - 280 mμ were used for excitation and 3 % sodium citrate solution with glucose as a stabilizer with the blood stabilizer ratio 2 : 1. The blood was irradiated "in vitro" with a RUM-11 apparatus (RUM-11 mass X-ray unit 11) with a dose rate of 600 rad/min. and the dose absorbed measured by the chemical method in equivalent conditions according to the iron sul-

Card 1/4

On the effect of "in vitro" X-ray ...

fate radiolysis yield and expressed in rads. Irradiated and non-irradiated blood used as the control was kept at room temperature and studied at 1, 2, 3 and 4 hours, being stained with acridine yellow immediately before use. In non-irradiated blood it was established that the fluorescence of leukocytes is considerably above that of the surrounding blood plasma. In irradiated blood cells there were individual fluctuations of fluoresence so that the results of experiments with similar radiation doses were treated statistically to obviate the effect of incidental factors. Analysis of the data revealed a clear radiation effect of incidental factors. Analysis of the data revealed a clear radiation effect 1 hour after irradiation, and a partial one after 30 minutes. A dose of 42 rad produced a negative effect i.e. the relative fluorescence of irradiated cells was less than that of non-irradiated. The effect increased as doses increased with maximum at 336 - 756 rad, declining slightly with a dose of 2,100 rad. An increase in the intensity of fluorescence of blood cells was also noted by photographing them in ultra-violet fluorescent light. The radiation effect [illegible] somewhat higher in segmental nuclear neutrophils than in lymphocytes. The

radiation effect in these experiments was characterized by an increase in the relative fluorescence of irradiated as compared with non-irradiated cells. This may be due either to an increase in the intensity of cell fluorescence following slight changes in plasma fluorescence, or to a decline in intensity of plasma fluorescence, that of the cell remaining almost unchanged. Since proteins determine cellular fluorescence it is postulated that change in the intensity of protein fluorescence within a constant spectral region was the fundamental cause of the observed increase and decrease of fluorescence. According to V.Ya. Brodskiy and I.A. Suyetina (Ref. 14: Biofizika, 3, 92, 1955) change in the intensity of protein fluorescence in the cell may be caused by a reduction of the light absorption coefficient of nucleic acids and free nuclectides in the ultra-violet region under the action of irradiation. This would reduce their protein screening function, while a large part of the ultra-violet rays would reach the protein and increase the intensity of fluorescence. The author concludes that complex measurements of the absorption, excitation, and emission spectra with threshold restriction of the action on the cell of ultra-violet irradiation

are a prerequisite for a definite solution of these problems. This method is advocated for diagnosis in the early stages of radiation sickness since the first changes in relative cell fluorescence were noted with doses of 42 rad already in the first 5 - 10 min. after irradiation. There are 5 figures, 2 tables, and 18 references: 17 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: W. Gordy and H. Shields. J. Phys. Chem., 62, 789, 1958.

ASSOCIATION: Institut tsitologii AN SSSR, Leningrad (Institute of Cytology, AS USSR, Leningrad)

SUBMITTED: May 22, 1961

BARENBOYM, G.M.

Short-lived phosphorescence of DL-tryptophan in frozen solutions. Biofizika, 7 no.2:227-232'62. (MIRA 16:8)

1. Institut tsitologii Akademii nauk SSSR, Leningrad.
(TRYPTOPHAN) (PHOSPHORESCENCE)

BARENBOYM, G.M.; BARSKIY, I.Ya.; BRUMBERG, Ye.M.; PINTO, R.I.

Apparatus for measuring the fluorescence intensity of microstructures of biological objects. Biofizika 7 no.3:351-356 '62. (MIRA 15:8)

1. Institut tsitologii AN SSSR, Leningrad.
(BIOLOGICAL APPARATUS AND SUPPLIES)
(FLUORESCENE--MEASUREMENT)

Barenboym G. M.

"Oxygen Quenching of Ultraviolet Flourescence of Aromatic Amino Acids, Proteins and Nucleic Acids." pp. 4

Institute of Cytology AS USSR Laboratory of Cell Morphology, Chair of Embryology of Leningrad State University

II [illegible] Konferentsuya Institute Tsitologii AN SSSR, [illegible] (Second Scientific Conference of the Institute of Cytology of the [illegible] of Sciences USSR, [illegible] of Reports), Leningrad, [illegible]

JPRS 20,[illegible]

S/205/63/003/001/002/029
E065/E485

AUTHORS: Barenboym, G.M., Pinto, R.I., Pravdina, K.I.

TITLE: The effect of X-rays on the induced ultraviolet fluorescence of isolated cell nuclei and mitochondria

PERIODICAL: Radiobiologiya, v.3, no.1, 1963, 8-12

TEXT: The effect of ionizing radiation on the isolated cell nuclei and mitochondria from the liver and spleen of rats was studied using the induced fluorescence with Acridine Orange (0.001%). The X-ray installation used was РУМ-11 (RUM-11) without a filter. The X-ray tube was operated at 200 kV and 20 mA; a dose of 1820 r/min was given for 5, 20 and 40 minutes. The fall of the fluorescence intensity was very rapid in cell nuclei and mitochondria which have been subjected to the ionizing radiation. The nuclei of cells from the spleen were more susceptible to radiation than the nuclei of liver cells. The described technique is more sensitive for detecting radiation injuries in cells than most biochemical tests. There are 2 figures.

ASSOCIATION: Institut tsitologii AN SSSR, Leningrad
(Institute of Cytology AS USSR, Leningrad)

Card 1/1 SUBMITTED: April 21, 1962

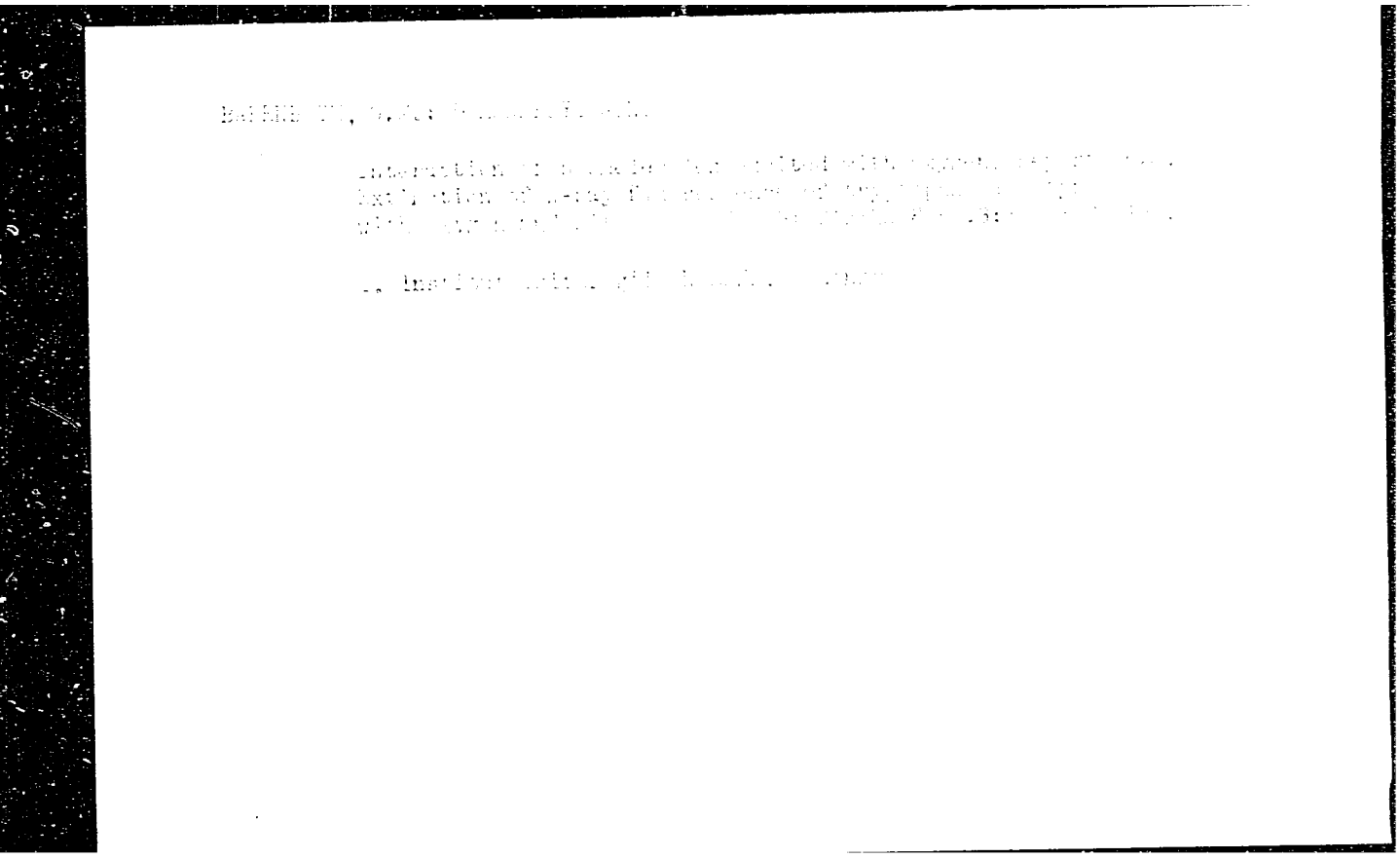
TROSHIN, A.S.; BARENBOYM, G.M.

Luminescence methods in cytology. Vest. AN SSSR 33 no.6:73-76 Je '63. (MIRA 16:7)

1. Chlen-korrespondent AN SSSR.
(Cytology) (Fluorescence microscopy)

BARENBOYM, G.M.; PINTO, R.L.

Some results of the 11th All-Union Conference on Luminescence.
TSitologiia 5 no.3:362-364. My-Je '63. (MIRA 17:5)



[illegible], G. V.

Interaction of excited biomolecules with oxygen. [illegible] Report No. 1: Quenching of biomolecule photoluminescence with [illegible] oxygen and nitric oxide. Biofizika 8 no. 2:154 [illegible] '63. (MIRA 17:10)

1. Institut tsitologii AN SSSR, Leningrad.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000203610018-0"

L 22345-66
ACC NR: AP6013513 SOURCE CODE: UR/0120/66/000/002/0129/0131

AUTHOR: Barenboym, G. M.; Domanskiy, A. N.; Solomatin, V. F.

ORG: Cytology Institute, AN SSSR, Leningrad (Institut tsitologii AN SSSR)

TITLE: Characteristics of cooled photomultipliers of FEU-39 and FEU-46A types

SOURCE: Pribory i tekhnika eksperimenta, no. 2, 1966, 129-131

TOPIC TAGS: photomultiplier, photocathode, light emission

ABSTRACT: Results are given of an investigation of the sensitivity and the dark current of the FEU-39 and FEU-46A nitrogen-cooled photomultipliers having antimony-cesium photocathodes without a conducting substrate. Light from an SVD-120A lamp passed through the quartz light guide and the ZMR-3 monochromator, illuminating the photocathodes. A photocurrent two or three times greater than the dark current at room temperature corresponds to the "weak" light flux with 5×10^3 photons/sec. The photocurrent due to a "strong" light flux was not less than 5×10^{-8} amp which, according to the calculation, corresponds to a flux with 5×10^5 photons/sec. The signal from the "weak" light flux and the photomultiplier noise were measured by counting the pulses developing across the photomultiplier load. Signals from the

Card 1/2 UDC: 621.383.53

L 22345-66
ACC NR: AP6013513 O

"strong" light flux were measured by the microammeter. The following conclusions were reached: Cooling of photomultipliers limits the range of operating light fluxes. If the recorded light flux is sufficiently weak (< 5 x 10^3 photons/sec), the photomultiplier may be cooled to the temperature of liquid nitrogen. Under the action of "strong" light fluxes (< 5 x 10^5 photons/sec), cooling below -80C leads to a sensitivity drop. The sensitivity, which is dependent at the given temperature on the intensity of the light flux, is not immediately restored, which leads to certain limitations in rapid measurements. Optimum cooling temperatures and signal-to-noise ratios for various light fluxes are determined. Orig. art. has: 4 figures. .[GS]

SUB CODE: 09/ SUBM DATE: 29Mar65/ ORIG REF: 008/ ATD PRESS: 4242

Card 2/2 dda

USSR/Engineering
Construction Equipment
Caissons, Compressed Air

Mar 1948

"Lowering Caissons With the Aid of Hydromechanization", I. Yu. Barenboym, Engr, Hero of Socialist Labor, 4 pp

"Mekh Trud i Tyazh Rabot" No 3

Lists difficulties encountered when lowering caissons for building railroad bridge across rivers. These were overcome by system of hydromechanization described with sketch. Mud of river bed was loosened by monitor and removed by ejector. Fully automatic caissons, obviating men working under pressure, are now in experimental stage.

77T21

BARENBOYM, I.Yu., inzhener, geroy Sotsialisticheskogo Truda.

Experience in building bridges using mass production methods. Transp. stroi. 6 no.6:8-12 Je '56. (MLRA 9:9)
(Bridge construction)

BARENBOYM, I.Yu.; DUBROVA, Ye.P.; MINCHIN, L.M.; ROYZMAN, I.B., starshiy nauchnyy sotrudnik

Recent developments in the manufacture of prestressed concrete spans. Transp.stroi. 9 no.3:13-19 Mr '59. (MIRA 12:4)

1. Nachal'nik Mostostroya No.1 (for Barenboym). 2. Nachal'nik Kiyevskoy laboratorii-stantsii TSentral'nogo nauchno-issledovatel'skogo instituta svyazi pri Mostostroye No.1 (for Minchin). 3. Kiyevskaya laboratoriya-stantsiya TSentral'nogo nauchno-issledovatel'skogo instituta svyazi pri Mostostroye No.1 (for Royzman).
(Bridges, Concrete) (Prestressed concrete)

BARENBOYM, I.Yu.; ARTAMONOV, Ye.A.; DUBROVA, Ye.P.; MINCHIN, L.M.; ROYZMAN, I.B.

Effectiveness of using curved reinforcements in prestressed spatial structures. Transp.stroi. 9 no.9:29-33 S '59. (MIRA 13:2)

1. Nachal'nik Mostostroya No.1 (for Barenboym). 2. Nachal'nik otdela tipovogo proyektirovaniya Lentransmostproyekta (for Artamonov). 3. Nachal'nik tekhnicheskogo otdela Mostostroya No.1 (for Dubrova). 4. Rukovoditel' Kiyevskoy laboratorii-stantsii TSentral'nogo nauchno-issledovatel' skogo instituta svyazi pri Mostostroye No.1 (for Minchin). 5. Sotrudnik Kiyevskoy laboratorii-stantsii TSentral'nogo nauchno-issledovatel'skogo instituta svyazi pri Mostostroye No.1 (for Royzman).

(Reinforced concrete construction)
(Bridges, Concrete)

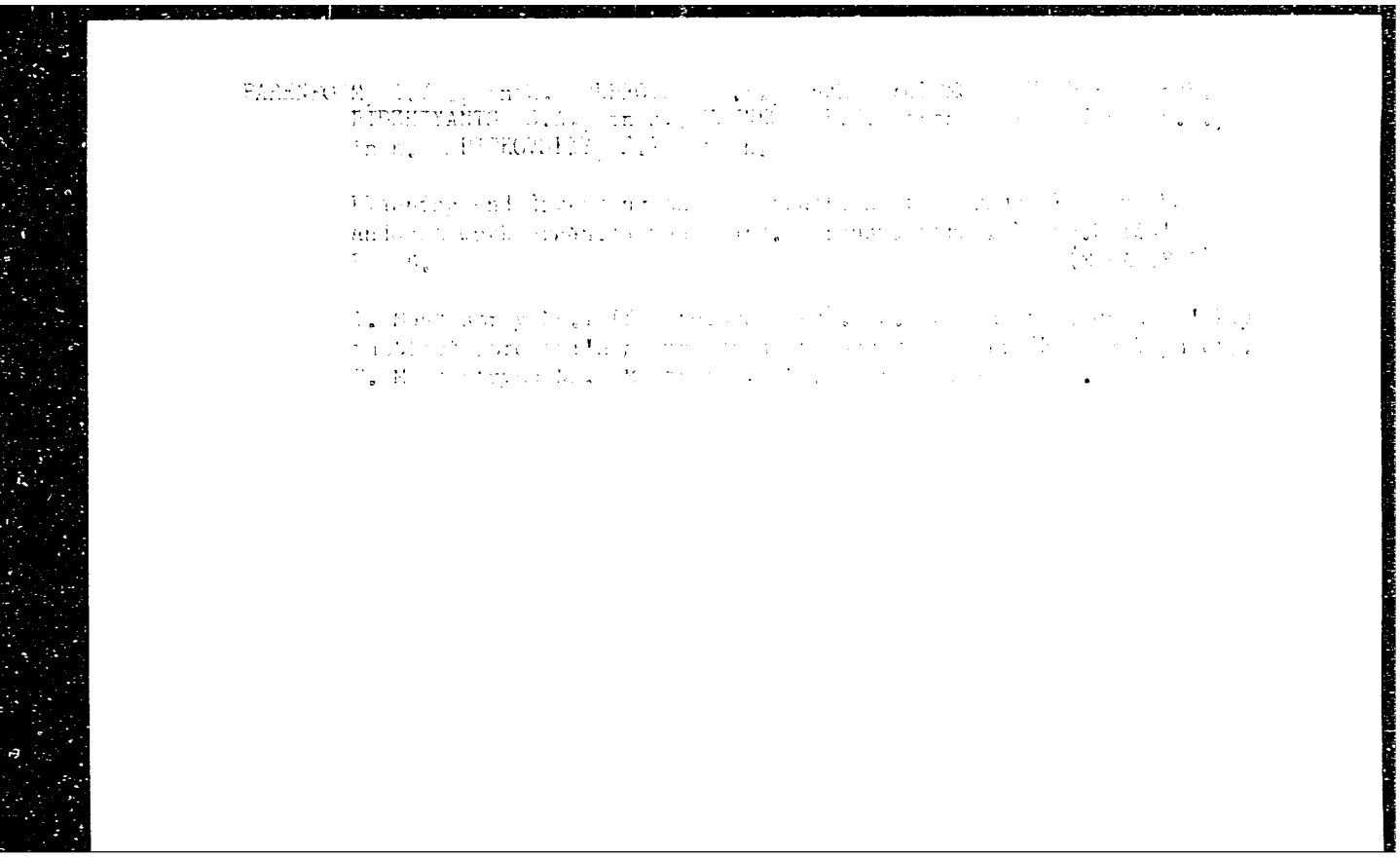
BARENBOYM, I.Yu., Geroy Sotsialisticheskogo Truda, laureat Stalinskoy premii

What's new in bridge construction. Prom. stroi. i inzh. soor. 1 no.1:33-40 O '59. (MIRA 13:12)

(Bridge construction)

BARENBOYM, I.Yu., inzh.; DUBROVA, Ye.P.

Unit production-line technique for the manufacture of bridge spans.
Transp. stroi. 12 no.11:19-23 N '62. (MIRA 15:12)
(Bridges, Concrete) (Prestressed concrete)



L 26377-66

ACC NR: AP6007660 (A) SOURCE CODE: UR/0413/66/000/003/0028/0028

AUTHORS: Barenboym, I. Yu.; Dubrova, Ye. P.; Vasil'yev, V. D.; Lurik, N. M.; Radzevich, Ye. N.; Spitkovskiy, S. A.; Fuks, G. B.; Fel'dman, M. B.; Leybman, Ya. M.; Kolomoytsev, B. B.; Flaks, V. A.; Khandzhi, V. V.; Gol'dfel'd, L. M.; Lifshits, I. L.

ORG: none

TITLE: A means of erecting railroad bridges of arched-span construction from separate sections. Class 19, No. 178393

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 28

TOPIC TAGS: bridge, bridge construction, structural engineering, railroad bridge, cantilever bridge

ABSTRACT: This Author Certificate presents a means for erecting railroad bridges of arched span construction from separate sections. The sections are suspended and joined with struts of the structure above the arch by temporary sloping and horizontal members. These members serve as cross-stays and upper booms. The sections also feature a cantilever truss (see Fig. 1) with a triangular framing, the lower girder of which forms a semi-arch. The upper girder of the cantilever truss is set above the travel span, which includes separate elements of the truss used in mounting and elevating the structure. These members subsequently form a triangular cantilever

Card 1/2 UDC: 624.624

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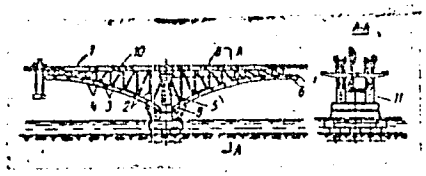

Fig. 1. 1 - upper string of the cantilever truss; 2 - struts; 3 - slanting members; 4 - lower string panels; 5 - anchor post; 6 - key block; 7 - floor plates; 8 - cables; 9 - anchor block; 10 - tension cables; 11 - joints.

frame, cross-stays and semi-arch sections. Each panel thus formed serves as a support for the next panel. The panels are rigidly fastened along the entire face, the process being repeated until the entire semi-arch is formed. Then cables are placed between the link sections and the support. When the cables are tightened, the semi-arches are rotated with respect to the support section, thus unloading the diagonal and horizontal members of the cantilever. The cables are removed, after which the travel-span plates are placed upon the structure above the arch between the link sections of the semi-arch and the support. When the wearing surface is completely laid, the remaining part of the cables is tightened. Favorable working conditions for the support are created by freeing the support from one-sided loadings; assembly of the semi-arch takes place simultaneously on both sides of the pier, with each addition being a cantilever addition. The abutment portion of the semi-arch is prepared in place between the first support block of the semi-arch and the pier. Forces in members of the cantilever are lessened by the introduction of stiffener cables in the upper girder at 1/2--2/3 of its design length. Moments in panels on the semi-arch are reduced through a skewed arrangement of axes of diagonals relative to points of intersection of the axes of vertical members and the semi-arch blocks. Joints are placed between adjacent semi-arches on the assembled panels, thus controlling the position of cantilever frames in the span. Orig. art. has: 1 figure.

Card 2/2 SUB CODE: 13/ SUBM DATE: 14Nov64

BARENBOYM, M. I.

"Dynamic Peculiarities of Refracted Waves in the Region of the Slopes of Salt Domes"
Prikl. Geofizika, No 10, 1954, 84-96

Application of the method of reflected waves on salt dome structures of south Emba has apermitted some to assume that so-called steep benches or ledges exist on the slopes of domes. According to the data acquired by the method of reflected waves, however, the beginning of the steep salt burying is not always successfully noted. According to geological data, the angles of inclination of the salt roof on the cupola or arch part amount to 5-20°; the beginning of steep salt buryings on the periphery of domes is observed at dpths of approximately 1000-1500 meters. The author presents a number of seismograms and hodographed illustrating the dynamic and kinematic characteristics of refracted waves i n the correlational method and showing presence of diffracted waves from "ledges." (RZhGeol, No 6, 1955)

SO: Sum-No 787, 12 Jan 56

BARENBOYM, M.I.

Registration of subsalt horizons. Prikl.geofiz. no.10:97-102 '53.
(Prospecting--Geophysical methods) (MLRA 8:7)

BARENBOYM, M. I.

USSR/ Geology

Card 1/1 Pub. 22 - 39/51

Authors : Barenboym, M. I.

Title : The surface structure of the subsalt layer of the south-eastern section of the Caspian region depression

Periodical : Dok. AN SSSR 101/1, 141-142, Mar 1, 1955

Abstract : Gravimetric and seismic investigations were conducted to determine the surface structure of the subsalt layer in the south-eastern part of the Caspian region depression. The results obtained are described. Diagram.

Institution : Ministry of Petroleum Industry, USSR, The Kazakhstan Geophysics Bureau

Presented by : Academician N. M. Strakhov, November 4, 1954

BARENBOYM, O.M., kand.med.nauk; RUBINA, V.Ye.,

Problem of studying influenza cases under outpatient polyclinic conditions. Medych.zhur.20 no.3:103-106 '50. (MIRA 11:1)

1. Z 1-oy polikliniki Kiivs'koi likarni im. Zovtnevoi revolyutsii (glavnyy likar - I.S.Bogomolets')
(INFLUENZA)

BARENBOYM, R. A. , CHAIR OF ROENTGENOL., [illegible]

USSR/ Medicine-Infectious Diseases Feb 52

"Application of General X-Ray Therapy in Chronic Brucellosis," Prof Ye. D. Dubovyy, Prof L. K. Korovitskiy, R. A. Barenboym, Chair of Roentgenol, Therapeutic and Infectious Diseases Clinic, Odessa Med Inst

"Klin Med" Vol XXX, No 2, pp 38-43

Found that general X-ray therapy (irradiation of the whole body) is effective in the treatment of chronic brucellosis.

PA 209T76

BARENBOYM, R.M. (Odessa)

Two instruments for spherical astronomy. Fiz.v shkole 22 no.5: 69-71 S-O '62. (MIRA 15:12)
(Astronomical models)

PARNAGOYI, S. I.

"Placental Blood As an Additional Source for Transfusion."
Sub 21 May 51, First Moscow Order of Lenin Medical Inst.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO : Sum. No. 480, 9 May 55

BARENBOYM, S.I.; PULATOV, A.T.

Tissue therapy by the use of egg white. Dokl.AN Tadzh.SSR no.4:43-48 '52. (MIRA 9:9)

1.Gospital'naya khirurgicheskaya klinika Stalinabadskogo meditsinskogo instituta. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR N.F. Berezkinym.

(TISSUE EXTRACTS)

BARENBOYM, S. I.

USSR/Medicine - Tissue Therapy Oct 53

"Tissue Therapy by Means of Egg Albumin," Docent S. I. Barenboym and A. T. Pulatov (Stalinabad), Chair of Hospital Surgery, Stalinabad Med Inst

Klin Med, Vol 31, No 10, p 87

Subcutaneous implantation of egg albumin, both in the raw and boiled form, was successfully used in the treatment of trophic ulcers, endarteritis, diseases of the bones and joints, and afflictions of a suppurative and inflammatory nature. Raw egg albumin was resorbed within a few hours after

269T33

implantation; boiled egg albumin was resorbed within 30-55 days. Doses of 1 to 25g of raw egg albumin were implanted into the subcutaneous cellular tissue of the thorax 2 to 10 times at intervals of 5 to 10 days. Amnt of boiled egg albumin used in a single application was 0.4 to 6g. Length of time between 1st and 2nd implantation of the boiled egg albumin was 30-55 days. Implantation of boiled egg albumin produced the best therapeutic effects.

17(1) SOV/177-58-11-12/31

AUTHORS: Kamyanov, I.M., Candidate of Medical Sciences and Barenboym, Ye.L., Lieutenant-Colonels of the Medical Corps

TITLE: About the Method of Recognizing Lumbosacral Pains

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1958, Nr 11, p 87 - 88 (USSR)

ABSTRACT: The determination of the sensibility of the skin against ultraviolet rays and the determination of the degree of the codeine swelling and the velocity of its resolution and arterial oscillography are suggested as additional diagnostic methods for recognizing lumbosacral pains. In the first case, the determination of the erythema threshold dose was carried out by a mercury-quartz lamp with a PRK-2 type burner through a Gorbachev biodosimeter on symmetric parts of the skin of the healthy and the affected extremity. The second determination was performed by an electrophoresis of a 2% solution

Card 1/2

About the Method of Recognizing Lumbosacral Pains

of codeine phosphate and lasted 20 minutes. Oscillography was performed with the aid of a usual arterial oscillograph on each of the shins. The healthy and the affected extremity were compared by means of the oscillator index. The investigations had the following results: In a series of patients with clinically pronounced lumbosacral radiculitis accompanied by reflex, trophic and sensibility disturbances, a reduction of the photosensibility of the skin against ultraviolet radiation on the affected leg, as well as a reduction of the oscillator index and the codeine swelling were observed. The oscillator index was much reduced in those cases in which neither a reduction of the photosensibility nor a reduction of the size of the codeine swelling was observed. The above mentioned methods are suggested to be utilized for perception of the lumbosacral pains when usual neurologic investigations do not reveal objective symptoms.

BARENBOYM, Y.s.L., podpolkovnik med.sluzhby; GUSEV, V.P., mayor med. sluzhby

Use of nasal reflexotherapy in peptic ulcer. Voen.-med.zhur. no.2:83-84 F '60. (MIRA 13:5)
(REFLEXOTHERAPY)
(PEPTIC ULCER therapy)

BARENBOYM, Ye.L.; GRINBERG, E.Ya. (Liyepaya)

Device for automatically switching off a mercury-quartz lamp. Vop. kur., fizioter. i lech. fiz. kul't. 27 no.1:69-70 '62. (MIRA 15:5)
(ULTRAVIOLET RAYS--THERAPEUTIC USE)
(ELECTRIC SWITCHGEAR)

BARENBURG, I.

Pig sty and fattening yard made of keramzit concrete slabs.
Sel'.stroi. no.11:7-8 N '62. (MIRA 15:12)

1. Glavnyy inzh.-stroitel' sovkhoza "Znamya Oktyabrya"
Moskovskoy oblasti.
(Swine houses and equipment)
(Precast concrete construction)

BARENBURG, I.D., inzhener.

Panel, parquet and board floors. Biul.stroi.tekh. 10 no.13:21 Ag '53. (MLRA 6:10)

(Floors)

1. Dnepropetrovsk.

BARENIK, E. I.

USSR/Reconstruction 4413.1100
Transportation 4601.0100

Apr 1947

"Task of VNIOMS /All-Union Scientific Research Society of Machine Building?/ during New Five-Year Plan in Field of Mechanization," E. I. Barenik, Dr of Tech Sci, Director of VNIOMS, 3 pp

"Stroitel'naya Promyshlennost'" No 4

In 1947, 30,800,000 rubles were allotted to construction and reconstruction work. In 1947-1950 there must be 40% increase in construction over prewar figures. Mechanization will greatly increase general efficiency of USSR transportation system, and this efficiency will carry over to every industry utilizing any form of transport.

BS

15G61

BAR'YAKHTAR, Ye. T.

1952 [illegible]

O metodakh vyrashchivaniya porodno ulushchennykh semyan olivy. Selektsiya i semenovodstvo, 1949, No. 7, s. 27-35.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

BARYETS, S., Lt Col

Coauthor with Col P. IVANCHKOV of article, "Important Theme," commenting on the forthcoming Second Congress of Soviet Writers, and criticizing the dearth of literature on military themes. The authors stated that since the end of World War II there have been few books with military backgrounds, and that military readers in particular are waiting for books showing the great achievements of the Soviet people and their Armed Forces during the Great Patriotic War, the organizing activities of the Soviet commanders, and the life and training of the Soviet Army and Navy. They also stated that apparently the Union of Soviet Writers has no concern for these matters, because it did away with the Commission on Military-Artistic Literature which was formerly the center of organization for writers working on military themes. Krasnaya Zvezda, Moscow, 5 Sep 54

SO: [illegible], 2 Dec 1954